

Claims:

The following is a listing of all claims with their status and the text for all active claims.

1. (AMENDED) A radio frequency identification label comprising:

A substrate material layer; and

A tag circuit capable of producing an electromagnetic signal containing information; and

At least one antenna element for coupling the tag circuit to an external tag reader device; and

At least one defined marker region of electrically conductive material that is distinct from the antenna elements and electrically coupled to the tag circuit; and

A tag circuit arranged such that all or part of its information is dependent on the electrical properties of the marker region.

2. (AMENDED) The radio frequency label of Claim 1, wherein the tag circuit is a digital electronic integrated circuit.
3. (AMENDED) The radio frequency label of Claim 1, wherein the tag circuit is a circuit comprised of polymer-based transistors and passive components.
4. (AMENDED) The radio frequency label of Claim 1, wherein the tag circuit is a chipless circuit comprised of one or more electrically resonant circuits consisting of a planar metal coil and distributed capacitance.
5. (AMENDED) The radio frequency label of Claim 1, wherein the substrate layer is comprised of woven cloth or threads.
6. (AMENDED) The radio frequency label of Claim 1, wherein the marker region is comprised of woven cloth or threads.
7. (AMENDED) The radio frequency label of Claim 2, wherein the label is inductively-coupled to the tag reader.
8. (AMENDED) The radio frequency label of Claim 2, wherein the label is capacitively-coupled to the tag reader.

9. (AMENDED) The radio frequency label of Claim 3, wherein the label is inductively-coupled to the tag reader.

10. (AMENDED) The radio frequency label of Claim 3, wherein the label is capacitively-coupled to the tag reader.

11. (AMENDED) The radio frequency label of Claim 7, wherein at least one marker region is also electrically coupled to the object onto which the label is affixed.

12. (AMENDED) The radio frequency label of Claim 8, wherein at least one marker region is also electrically coupled to the object onto which the label is affixed.

13. (AMENDED) The radio frequency label of Claim 9, wherein at least one marker region is also electrically coupled to the object onto which the label is affixed.

14. (AMENDED) The radio frequency label of Claim 10, wherein at least one marker region is also electrically coupled to the object onto which the label is affixed.

15. (AMENDED) The radio frequency label of Claim 4, wherein at least one marker region is also electrically coupled to the object onto which the label is affixed.

16. (AMENDED) The radio frequency label of Claim 7, wherein the marker region is comprised of a printed pattern of electrically conductive ink.

17. (AMENDED) The radio frequency label of Claim 8, wherein the marker region is comprised of a printed pattern of electrically conductive ink.

18. (AMENDED) The radio frequency label of Claim 9, wherein the marker region is comprised of a printed pattern of electrically conductive ink.

19. (AMENDED) The radio frequency label of Claim 10, wherein the marker region is comprised of a printed pattern of electrically conductive ink.

20. (AMENDED) The radio frequency label of Claim 2, wherein the information generated by the tag circuit is encrypted by a mathematical function that is dependent on the electrical properties of the marker region.

21. (NEW) The radio frequency label of Claim 2, wherein the information generated by the tag circuit is encrypted by a mathematical function that is

dependent on a parameter derived from the electrical properties of the marker region.

22. (NEW) The radio frequency label of Claim 7, wherein at least one marker region is also electrically coupled to the object onto which the label is affixed, wherein the information transmitted by the radio frequency identification label is also dependent on the electrical properties of the object.

23. (NEW) The radio frequency label of Claim 8, wherein at least one marker region is also electrically coupled to the object onto which the label is affixed, wherein the information transmitted by the radio frequency identification label is also dependent on the electrical properties of the object.

24. (NEW) The radio frequency label of Claim 9, wherein at least one marker region is also electrically coupled to the object onto which the label is affixed, wherein the information transmitted by the radio frequency identification label is also dependent on the electrical properties of the object.